

Hyperspectral Single Pixel Image Sensor (HyperSPIS)

Completed Technology Project (2012 - 2013)



Project Introduction

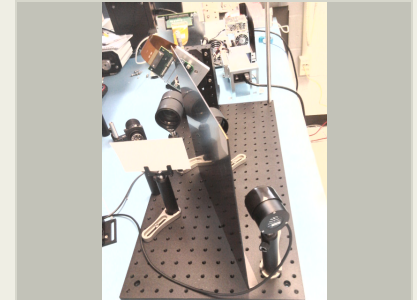
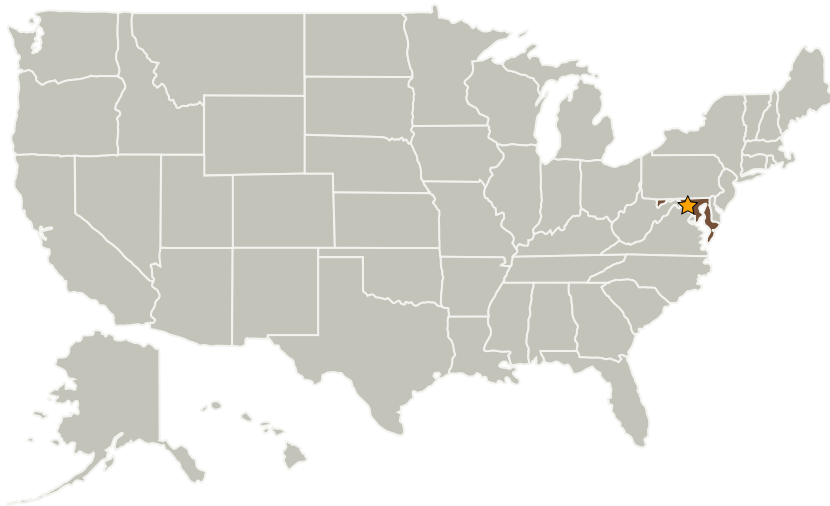
A single pixel image sensor that can operate in visible wavelength had been prototyped in FY12. We proposed to extend the current lab setup to operate in the infrared domain with hyperspectral resolution. This effort will allow better usage of the communication bandwidth, higher resolution of image data and significant reduction to the design cost.

This is a drastic enhancement to the current prototype which only allows us to collect visible light and reconstruct a single wavelength image. This approach is a high risk, potentially high-payoff method to address the problem of data volume transmission to Earth resulting from high-resolution hyperspectral imaging.

Anticipated Benefits

N/A

Primary U.S. Work Locations and Key Partners



Project Image ROE 34 CC
Hyperspectral Single Pixel
Image Sensor (HyperSPIS)

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Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland

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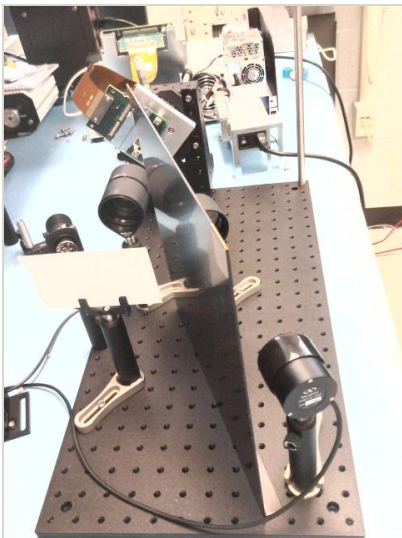
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Primary U.S. Work Locations

Maryland

Images



11818-1360179713215.jpg

Project Image ROE 34 CC
Hyperspectral Single Pixel Image
Sensor (HyperSPIS)
(<https://techport.nasa.gov/image/1610>)

Project Website:

<http://aetd.gsfc.nasa.gov/>

Organizational Responsibility

Responsible Mission Directorate:

Mission Support Directorate (MSD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Center Independent Research & Development: GSFC IRAD

Project Management

Program Manager:

Peter M Hughes

Project Manager:

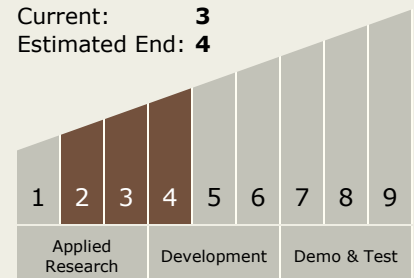
Wesley A Powell

Principal Investigator:

Englin Wong

Technology Maturity (TRL)

Start: 2
Current: 3
Estimated End: 4



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Technology Areas

Primary:

- TX08 Sensors and Instruments
 - └ TX08.1 Remote Sensing Instruments/Sensors
 - └ TX08.1.1 Detectors and Focal Planes